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IN REPLY  
REFER TO

DSCC-VAT

26 July 2004

MEMORANDUM FOR MILITARY/INDUSTRY DISTRIBUTION

SUBJECT: Initial Draft of MIL-DTL-13484F.  
Project number 5930-1864.

The draft of the above subject document is being sent to you for review and comments. This draft consist of the following changes:

Updating of referenced documents.  
Section 4 reconfigured to current requirements.

If this document is of interest to you, please provide your comments electronically. This can be in the form of a return e-mail, with or without an attached text file. A 45-day coordination cycle from the date of this letter has been allotted. Please provide your comments within that time period. If no comments are received in the allotted 45 day coordination cycle, concurrence is assumed and all comments received after will be held to the first amendment. If an electronic response is not possible we will still accept comments via letter, facsimile or phone call but only after you have contacted the project officer listed below. The draft document can be found at the following DSCC-VA web page: [www.dscc.dla.mil/Programs/MilSpec/initialdrafts.asp](http://www.dscc.dla.mil/Programs/MilSpec/initialdrafts.asp)

This process still requires military departments to identify their comments as "Essential" or "Suggested". Essential comments must be justified with supporting data. Military review activities should forward comments to their custodians or this office, as applicable, in sufficient time to allow for consolidating the department reply.

If there are any questions, please contact Mark Rush by the preferred method of E-Mail at [Mark.Rush@dlm.mil](mailto:Mark.Rush@dlm.mil) or by telephone at commercial 614-692-0550, DSN 850-0550; or by facsimile at 614-693-1644. Our mailing address as a last resort is Defense Supply Center, Columbus, DSCC-VAT, P.O. Box 3990, Columbus, OH 43216-5000. If you have further questions or concerns you may contact me at [Kendall.Cottongim@dlm.mil](mailto:Kendall.Cottongim@dlm.mil), by telephone at 614-692-0676 or by facsimile at 614-692-6939.

/ Signed /  
KENDALL A. COTTONGIM  
Chief  
Electronics Components Team



NOTE: This draft, dated July 26, 2004 prepared by DLA-CC,  
has not been approved and is subject to modification.  
DO NOT USE PRIOR TO APPROVAL.  
(Project 5930-1865)

INCH-POUND  
MIL-DTL-24236/16G  
DRAFT  
SUPERSEDING  
MIL-S-24236/16F  
28 June 1995

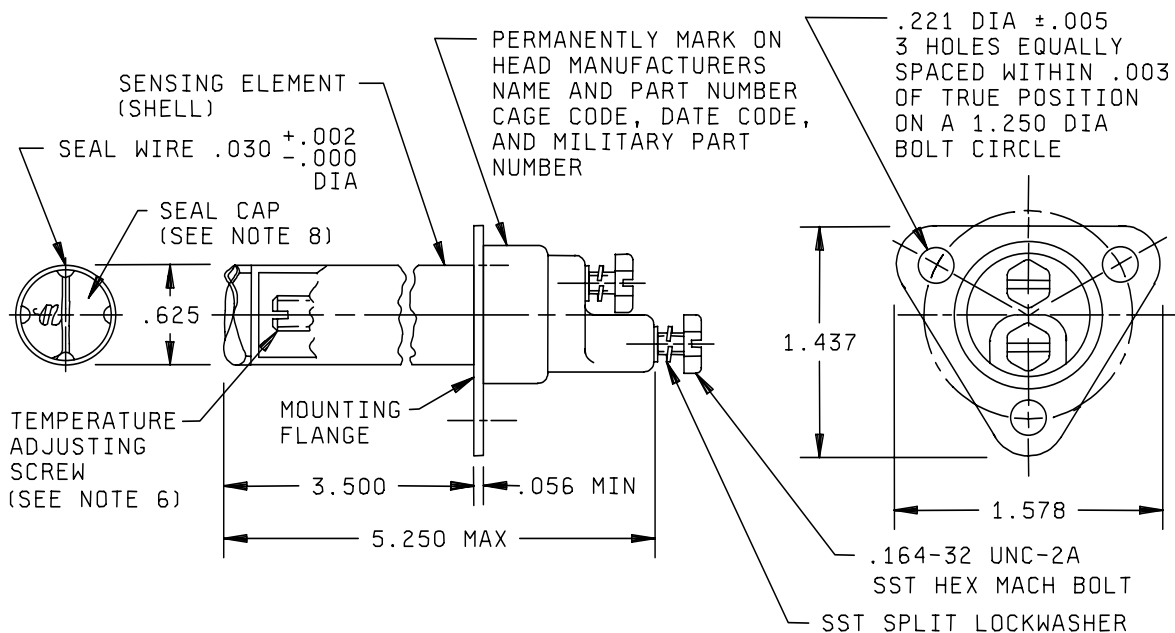
## DETAIL SPECIFICATION SHEET

SWITCH, THERMOSTATIC (METALLIC), TYPE II, OVERHEAT  
DETECTOR, ADJUSTABLE, DUAL TERMINAL, 3 AMPERES

Inactive for new design after 16 August 1999.

This specification is approved for use by all Depart-  
ments and Agencies of the Department of Defense.

The complete requirements for acquiring the switches described herein  
shall consist of this specification and the latest issue of MIL-PRF-24236.



### NOTES:

1. Dimensions are in inches.
2. Unless otherwise specified tolerances are .016 (0.41 mm).
3. The shell and flange must be perpendicular within  $\pm 1$  degree.
4. The mounting bracket forms an integral part of the switch housing.
5. A locking feature shall be incorporated to prevent inadvertent changing of the adjusting screw. Both the adjusting screw and the locking feature shall be protected with a metal cover, wired in place as shown, in such a manner that removal of this protective cover is required to permit readjustment. Removal and replacement of the cover shall not easily be accomplished without the use of some device considered a tool.
6. The adjustable feature is provided for maintenance to maintain marked set point within the setting tolerance of table 1.
7. The temperature setting shall be marked on the seal cap.

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FIGURE 1. Configuration and dimensions.

**REQUIREMENTS:**

Dimensions and configuration: See figure 1.

Enclosure design: All entrances to the switch cavity except through the actuator bushing shall be sealed by fusion of glass-to-metal, metal-to-metal, or ceramic-to-metal.

Class: Class 4, except vibration of 10 g's.

Ambient temperature range: -65°F to 1,000°F.

Operating temperature: See table I.

Temperature adjustment: The threaded temperature adjusting screw (see figure 1) shall be so designed and constructed that the operating temperature can be easily adjusted over the range 135°F to 900°F, without the use of special tools. One revolution of the mechanism shall not change the operating temperature by more than 370°F.

Delivery temperature: Prior to delivery, switches shall be adjusted to operate at the applicable operating temperature.

Temperature markings: The operating temperature setting of the switch shall be durably and legibly marked as shown on figure 1.

TABLE I. Operating temperature.

Dash number	Temperature setting		Dash number	Temperature setting	
	°F	Tolerance °F		°F	Tolerance °F
135	135	±20	525	525	±20
180	180	±20	535	535	±20
215	215	±20	550	550	±20
240	240	±20	600	600	±20
250	250	±20	650	650	±20
300	300	±20	675	675	±20
325	325	±20	700	700	±20
400	400	±20	725	725	±20
425	425	±20	750	750	±20
450	450	±20	825	825	±25
500	500	±20	900	900	±25

Test tolerances: The allowable post test set point tolerance, should be referenced to the actual pretest set point.

Electrical ratings: 3 amperes (lamp) at 28 V dc.

Environmental test effect: Not applicable.

Weight: 6 ounces maximum, including terminal hardware.

Visual and mechanical examination: X-ray is applicable.

Solderability: Not applicable.

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Method for quality conformance inspection: Go-no-go test procedure (type II). The switch shall be inserted into a standard high temperature test block, and the switch terminals connected to a relay coil. The relay contacts shall control the power to the test block heater and operate a lamp to indicate when the switch contacts transfer. The switch shall be allowed to cycle "on and off", a minimum of ten(10) cycles. The operating temperature of the switch will be determined by observing the temperature at the time of contact closure as indicated by the lamp. The operating temperature of the switch shall be within the tolerances listed in table I.

Sensitivity response: Applicable.

Temperature anticipation: Applicable.

Watertight seal: Applicable to switch contact chamber with the following exceptions: The switch contact chamber shall be immersed up to but not to include the mounting flange. A vacuum shall be drawn to an absolute pressure of 0 inch to 6 inches of Mercury. This pressure shall be maintained for a minimum of one minute. Any evidence of continuous stream of bubbles from within the contact chamber shall be cause for failure.

Dielectric withstanding voltage: Test voltage 500 V rms, current flow not to exceed 100 microamperes.

Insulation resistance: Not less than 2 megohms.

Contact resistance: Not applicable.

Thermal shock: Method 107 of MIL-STD-202, test condition E, except low temperature shall be -65°F and following the test shall be within  $\pm 25^\circ\text{F}$  of the pretest temperature setting following the test.

Terminal strength: Method 211 of MIL-STD-202. Test conditions A and E, with 25 inch-pounds for condition E.

Moisture resistance: Measurements shall be taken upon completion of tests and again after switches have dried. Insulation resistance shall be not less than 2 megohms.

Flame response: Applicable. Flame tests shall be conducted using the flame test burner, see figure 2. The flame shall completely envelop the sensing element of the switch. Starting ambient for flame response shall be a minimum of 200°F below switch operating temperature, or room ambient, whichever is greater. The switch shall be cooled to this ambient following each exposure. All flame temperatures shall be measured by using an 18-gauge wire thermocouple. The thermocouple bead shall be at the center of the flame and the two wires leading to the bead shall be parallel and shall extend for a distance of 3 inches horizontally into the flame. The vertical distance between the flame and the thermocouple shall be the same as that between the flame and the test article.

Vibration: Monitor for contact closure or opening, as applicable, during resonance search. There shall be no loosening of terminal hardware. Calibration check after testing shall be within  $\pm 25^\circ\text{F}$  of pretest temperature setting.

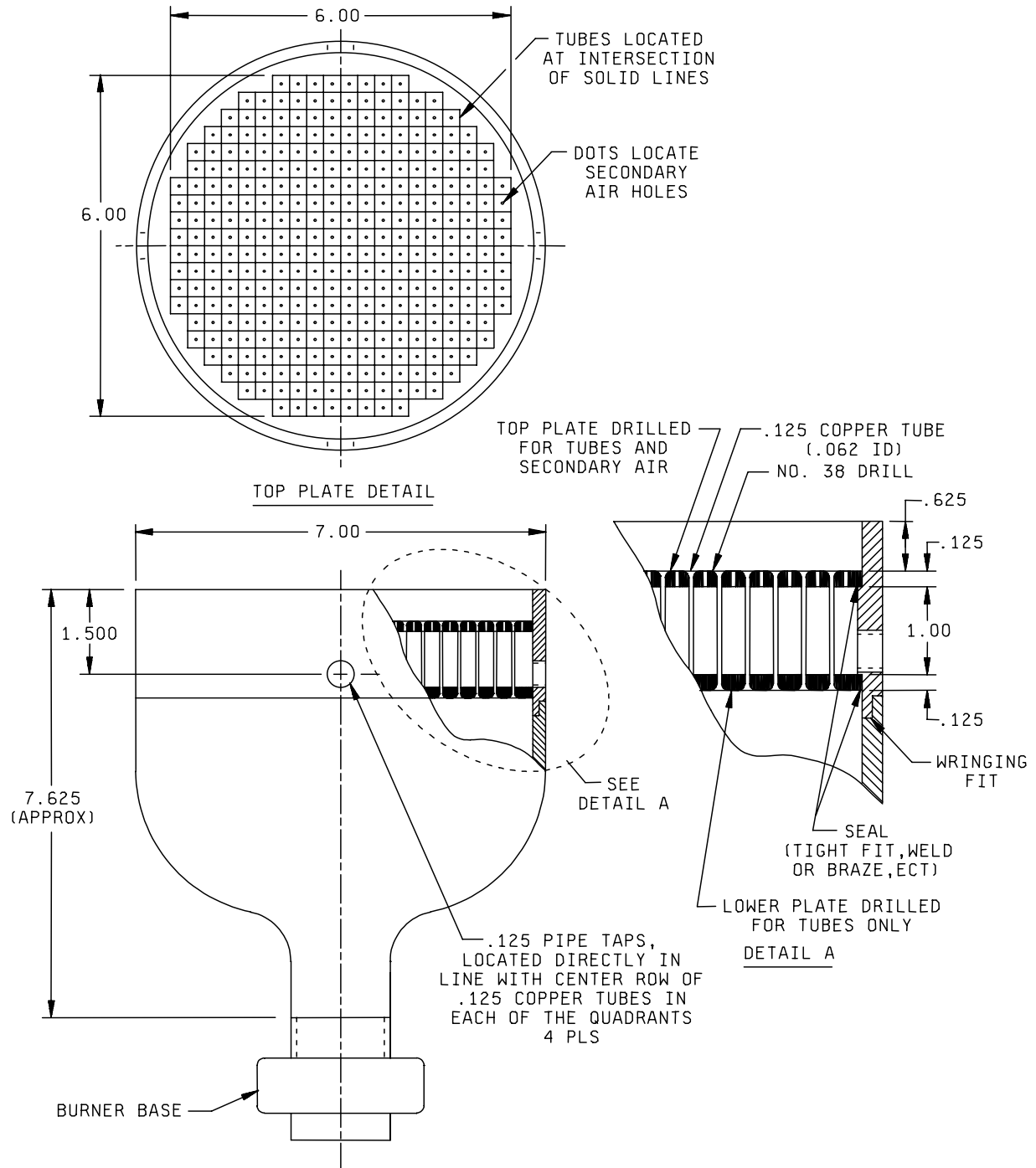
Shock: Applicable. Testing to be conducted at room ambient and without electrical load and thermal conditions. No measurements to be taken during testing. Calibration test at conclusion shall be within  $\pm 25^\circ\text{F}$  of pretest temperature setting.

Endurance: 2,000 cycles. Final setting to within  $\pm 30^\circ\text{F}$  of pretest of temperature setting.

Sand and dust: Not applicable.

Test sampling: Fifteen sample units shall be subject to qualification testing. They shall be set, 5 each, to 215°F, 600°F, and 900°F, prior to the start of testing. For quality conformance inspection, every fifth sample unit undergoing the inspection shall be set to 250°F, tested, reset to 900°F, and tested. The applicable terminal hardware shall be installed on each sample unit prior to testing, and shall be kept on throughout the tests.

Part or Identifying Number (PIN): M24236/16- (dash number from table I).



Note: All dimensions are in inches.

FIGURE 2. Flame Test Burner

MIL-DTL-24236/16G

Referenced Documents:

MIL-PRF-24236  
MIL-STD-202

Custodians:

Army - CR  
Navy - EC  
Air Force - 11  
DLA - CC

Preparing activity:  
DLA- CC

(Project number 5930-1865)

NOTE: The activities listed above were interested in this document as of the date of this document. Since organizations and responsibilities can change, you should verify the currency of the information above using the ASSIST Online database at [www.dodssp.daps.mil](http://www.dodssp.daps.mil).